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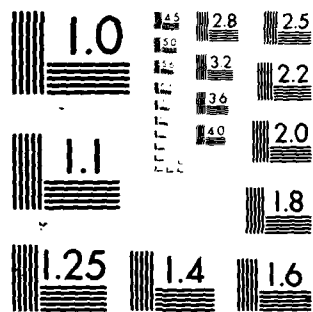
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THESIS

A GENERAL RETENTION MODEL
APPLIED TO THE NAVAL AVIATOR

by

James Robert O'Donnell

June 1980

Thesis Advisor:

D. M. Rousseau

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A General Retention Model
Applied to the Naval Aviator

by

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Lieutenant Commander, United States Navy
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Submitted in partial fulfillment of the
requirements for degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

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ABSTRACT

→ This Thesis was directed toward the development of a descriptive, causal model of Naval Aviator retention. Studies on retention and turnover indicate that a multiplicity of organizational, work, and personal factors can be associated with the decision to withdraw from the Navy. A general model of retention, following a review of the literature, led to a specific model of Naval Aviator retention, based on a synthesis of the literature and the author's experience as a Naval Aviator. The findings indicate that parity in pecuniary and nonpecuniary compensation between Navy and alternative employment opportunities must be addressed before Naval Aviator retention problems can be resolved. ↗

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I. INTRODUCTION

The object of this thesis is to develop a descriptive, causal model of Naval Aviator retention. Increasing numbers of Naval Aviators are resigning from the Navy. A trend of declining pilot retention began to surface in fiscal year 1977 and has steadily increased in magnitude. The Navy Personnel Statistics Report shows a decline of 2603 pilots from September, 1976 to September, 1979. Retention rates for pilots reaching Minimum Service Requirement⁺² (two years after initially eligible to resign, see Appendix A) were: 62% in FY-1977, 46% in FY-1978, 31% in FY-1979, and as of 1 April 1980 was 28%. For example, voluntary losses at the O-3 grade level increased as follows: jet pilots from 133 in 1976 to 296 in 1978, propeller aircraft pilots from 148 in 1976 to 281 in 1978, and helicopter pilots from 42 in 1976 to 82 in 1978. (Differences to losses cannot be attributed to fluctuations in the numbers of aviators) Total O-3 voluntary losses in 1979 were 848, an increase of 189 over 1978. If aviator retention continues to follow the projected downward trend, and requirements for aviators do not decline, it will threaten the operational readiness of Naval Aviation and ultimately national security. An increased understanding of the factors affecting retention and resignations, coupled with a system to monitor retention is needed to confront successfully the Navy's current aviator retention problem.

II. PRIOR RESEARCH

Retention or turnover of qualified personnel is a problem of major importance in both military and civilian organizations. High turnover wastes training investments and reduces organizational effectiveness. Though much research exists on the retention problem, we are a long way from understanding it. The literature on retention has been comprehensively reviewed by Schuh (1967) and Porter and Steers (1973). Of the research cited, extensive studies have been conducted in the areas of employee motivation and job satisfaction - factors that appear to influence personnel decisions to stay or leave the organization (Porter and Steers, 1973). Some researchers have been successful in improving worker productivity, morale and retention in industry by introducing managers to new techniques of supervision and work force management [e.g., Hackman and Lawler 1971]. While there are important differences between most civilian and military jobs, many similarities remain, making it possible to apply techniques successful in the civilian world to the military situation.

A. THEORY

To address and find solutions to problems of retention and work motivation a general theory of motivation is useful. One such theory is the motivation theory developed by Abraham Maslow (1970) which is based on a hierarchy of needs. Maslow argued that food, shelter, and clothing (physiological needs) are low order needs that must be satisfied before other needs become salient. Safety, security and stability come next in his hierarchy. Once these needs are largely

satisfied, Maslow believes that the need to belong and to feel needed become important. The highest order in Maslow's hierarchy is the need for individuality. In his theory, each low order need must be largely satisfied before a high order need becomes important. Therefore, failure to satisfy a low order need can interfere with job motivation and performance even when the conditions that satisfy higher order needs are present. Retention may be less likely for an individual who is unable to satisfy basic lower-order needs in his or her present job.

Another prominent motivation theorist, Frederick Herzberg (1966), sees two parallel types of needs, both of which must be satisfied to maintain satisfaction and productivity. He defines *hygiene* needs as those related to working conditions, work site, food and shelter, salary, and such job aspects that reduce negative experiences associated with working. These are factors which can cause job dissatisfaction, but which cannot produce high levels of job satisfaction (other than for brief periods). High levels of job satisfaction can be achieved through the satisfaction of *motivator* needs such as recognition for good performance, feeling needed, and believing that the job is important. Yet in Herzberg's theory, both hygiene and motivation factors contribute to feelings of job satisfaction and dissatisfaction. As dissatisfiers, hygiene factors may be expected to contribute substantially to an employee's decision to stay or leave the organization.

Mobley (1977), a theorist focussing specifically on retention, proposed a heuristic model that included several intermediate steps between the experience of dissatisfaction with the job and the act of quitting. These steps included:

1. Evaluation of existing job

2. Experiencing job satisfaction / dissatisfaction
3. Thinking of quitting
4. Evaluation of expected utility of search and cost of quitting
5. Intention to search for alternatives
6. Search for alternatives
7. Evaluation of alternatives
8. Comparison of alternatives versus present job
9. Intention to quit / stay
10. Quit / Stay

Mobley recognized that these particular steps might not always apply to every worker and he allowed for possible entries and exits from this sequence at several points. However, he believed that a model of this type might be quite useful in formulating future research efforts to include possible intermediate linkages between job satisfaction and employee turnover. In this thesis, Mobley's model constitutes the decision-making process undertaken by the individual.

Each of these theories has had its share of proponents and detractors, but no one claims that his theory completely explains why people are motivated or why they are satisfied. However, these theories help us better understand at least some of the causes and correlates of job satisfaction and retention.

B. RESEARCH

Research pertinent to the problem of retention generally focuses on two major factors and their determinants: job satisfaction and career intent. Both of these variables are related to actual decisions to stay or leave the organization and

are influenced by many of the same factors. However, though they are correlated, the relation between satisfaction and career intent is not a perfect one [Mobley 1977].

T.N. Thompson of the Air Force Institute of Technology (1975) studied many aspects and predictors of job satisfaction in the Air Force. In addition, he also attempted to relate job satisfaction to career intent. He found little difference in the principle determinants of job satisfaction among the different groups of Air Force personnel in his study. He also found job satisfaction greatly affected career intent for people with less than eight years of service (the segment hardest hit by attrition).

Alley and Gould (1975), in a longitudinal study of 55,000 first term enlisted Air Force personnel conducted between 1966 and 1971, demonstrated that survey respondents have a high probability of following through on their expressed intentions to reenlist or separate from the service. Of those surveyed in their fourth year of service, 76% of the *definitely yes* category reenlisted versus the 40% who responded with *definitely no*.

Shenk and Wilbourn (1971) in a study of 4,005 Air Force junior officers found that 89% of those officers responding with *definitely yes* to a career intent question actually remained in the Air Force beyond their initial commitment. Likewise 93% of those responding with *definitely no* to the same question, separated from the Air Force.

Grace, Holter, and Soderquist (1976), in a longitudinal study of 898 Navy enlisted personnel¹ designed to compare stated intention to reenlistment behavior, found that 93% of first term personnel who stated they intended to reenlist

actually did reenlist. Of first term personnel who stated they intended to leave the Navy, 96% actually did leave the Navy. Of those personnel in subsequent tours of enlistment, 100% who stated they intend to stay actually did stay, and 80% of those who indicated they would leave actually left the Navy.

In Waters, Roach, and Waters' (1976) study of 152 nonsupervisory female clerical employees of a national insurance company, they found a significant negative correlation between intent to remain and subsequent termination. Thus, career intent can be considered to be a valid predictor of actual turnover.

Another variable that may predict turnover is organizational climate. Climate is sometimes confused with the concept of job satisfaction. Such confusion is understandable in light of the different definitions of these concepts employed by researchers. Schneider and Snyder (1975) explored some of the relationships between the two concepts and felt that useful distinctions could be made if the variables operationalizing them were properly conceptualized.

According to these authors, organizational climate is most adequately conceptualized as a summary perception which people have of (or about) an organization. It is, then, a global impression of the organizational events and conditions that occur in the work setting.

¹This sample was drawn from two survey samples. The first sample, 1,711 first term enlisted personnel, included 627 personnel within 6 months of reenlistment decision. The 2nd sample of 2,744, had 1,760 personnel with less than 4 years remaining. The longitudinal study made no mention of how close personnel were to the decision point.

Job satisfaction is most adequately conceptualized as a personalistic evaluation of conditions existing on the job (work, supervision), or of outcomes that arise as a result of having a job (pay, security) [Schneider and Snyder: 318].

In a study of Navy Junior Officers ($N = 1,238$), Proctor, Lassiter, Soyars (1976) found they could quite accurately predict (80% of the variance) turnover given the responses of a junior officer to an organizational climate survey and his average fitness report score. They felt that these results showed that the decision to stay was influenced not only by the perceptions of the individual about the organization, but also the organization's evaluations of the individual as reflected in the fitness reports.

In a study by Schneider and Snyder (1975) comparing job satisfaction and organizational climate in fifty life insurance companies ($N = 522$), they found job satisfaction to be a better predictor of turnover than organizational climate. While neither the relationships of turnover to job satisfaction nor the relationships of turnover to organizational climate were particularly strong, in their study using the Agency Climate Questionnaire [Schneider 1972], job satisfaction proved to be the slightly better predictor.

In a comprehensive literature review, Porter and Steers (1973) brought together a large number of studies for comparison. They classified into four categories or levels some of the more important variables related to turnover:

1. Organization-wide factors (e.g., pay and promotion policies)
2. Immediate work group (e.g., unit size, supervision, worker relations)
3. Job content (e.g., nature of job requirements)
4. Personal factors (e.g., age, tenure, vocational interest, family)

responsibilities)

They concluded on the basis of these categories of variables that:

"The major roots of turnover appear to be fairly widespread throughout the various facets of organizational structure, as they interact with particular types of individuals [Porter and Steers: 169]."

In contrast to many studies involving turnover, Flowers and Hughes (1973) tried to determine why employees *stay* on a job. They found the basic factor to be "inertia", that is, an employee will stay on a job until some force or combination of forces causes him or her to leave. They identified two relevant factors within the company and two relevant factors outside the company that could effect the "inertia" of a worker. The two factors within the company were job satisfaction and the company's "environment" (the values of the company, its policies and procedures). They claimed that environment interacts with the values of the worker to strengthen or weaken the worker's inertia. The two factors outside the company that influence inertia included other perceived employment opportunities and nonwork factors such as financial responsibility, family ties, friendships, and community relations.

They also found that various employee groups stayed for different kinds of reasons. Managers generally listed work related motivational reasons, whereas wage-earners more often listed benefits and nonwork related reasons. As a result, the authors suggested that managers would improve retention of employees by selectively reinforcing the *positive* reasons such as providing working conditions compatible with the employees' values. These *positive* reasons would support the goals of the company and keep the employee on the job. Similarly, the company

should avoid reinforcing those reasons which benefit neither the individual nor the company. For example, it should not support rewards such as benefits, stock options, or early retirement which cause the worker to remain because he feels he must, rather than because he wants to stay.

In summary, we can state that results of civilian, Navy, and Air Force studies on retention and turnover clearly show that a multiplicity of organizational, work, and personal factors can be associated with the decision to withdraw. Following this review, certain conclusions may be drawn. First, a person's stated career intention is a good predictor of actual retention behavior. Secondly, a worker's attitude toward organizational climate and general job satisfaction coupled with his or her perceived, alternative opportunities have the greatest correlation with personnel retention.

III. GENERAL MODEL

The research described above indicates that, in general, work attitudes and perceptions of the organization influence employee decisions to stay or leave. But attitudes and perceptions are themselves shaped by many factors, and these factors in turn may influence turnover and retention. Two organizational scientists, Porter and Steers (1973) have provided both a review of turnover research and a general model describing the causes of turnover. Both the review and the model play a significant role in guiding turnover research and policy. Their work will be used here to provide a general model of the turnover process.

Porter and Steers (1973) noted that overall job satisfaction occupies the central role in the decision to withdraw from a job and, therefore, in the decision-process leading to turnover. They cited fourteen studies that confirm that overall job satisfaction is inversely related to turnover. In reviewing studies of more specific factors, components of overall satisfaction were identified. Porter and Steers defined these categories as "(A) organization - wide factors, (B) immediate work environment factors, (C) job content factors, and (D) personal factors [Porter and Steers:152]."

To explain the mechanism by which specific factors affect overall satisfaction, Porter and Steers applied the concept of met expectations.

"The concept of met expectations may be viewed as the discrepancy between what a person encounters on this job in the way of positive and negative experiences and what he expected to encounter [Porter and Steers:152]."

Every worker brings certain expectations to the job. Overall satisfaction will be determined by the extent to which the rewards provided by the job meet these expectations. Individuals will, quite naturally, perceive the rewards provided differently and thus view their expectations as being met or exceeded to different degrees. For instance, two workers may have identical expectation levels and receive identical rewards. Worker A may perceive the rewards as being at a certain level and feel his or her expectations have been met. Worker B, however, may view the rewards as being at another level and feel his or her expectations have not been met. Thus, Worker A would experience greater job satisfaction than Worker B, and would have a lower propensity to withdraw or quit. Evaluations of rewards made by individuals differ as a function of personal characteristics and cognitive processes [Mobley 1977]. Mobley's stages in the retention/turnover decision process reflect how individuals evaluate the factors Porter and Steers identify as predictors of turnover.

Porter and Steers also note a corollary effect confirmed by three studies. In these studies [Weitz 1956, Youngberg 1963 and Macedonia 1969], groups of new employees were provided realistic information about their new jobs before starting work; other groups were not given the information. Workers who received the information generally lowered their expectations (to make them more accurate), while the expectations of workers not provided the information remained unchanged. Because the rewards provided by the job were perceived differently by individual workers, greater numbers of "informed" workers, with more realistic expectation levels, experienced met expectations. As expected, greater numbers of informed workers stayed on the job.

Having established the central role of job satisfaction in the withdrawal

decision, Porter and Steers turned to a consideration of "the roots of such satisfaction" -- the specific factors that contribute to satisfaction or dissatisfaction.

A. ORGANIZATION - WIDE FACTORS.

This category includes those factors outside the individual and the immediate work group. Porter and Steers identified two factors in this category: (1) pay and promotion, and (2) organization size. Pay and promotion, although different, are considered jointly. Hawk (1976) noted that pay has two dimensions: the wage rate and the perceived equity of the company wage structure. Wage rates below the area average lead to dissatisfaction. A wage structure perceived as arbitrary and inequitable as compared to the work required, will also lead to dissatisfaction. Porter and Steers also considered promotion to have two dimensions: the rate of promotion (to a position of higher pay, prestige, power, or responsibility) and the perceived equity of the organizational promotion system. To these two dimensions (pay and promotion), Porter and Steers added consideration of the individual's expectations. That is, if the individual expects that continuing in his present job will result in greater rewards than any alternative behavior, this expectation will serve to intervene between withdrawal and dissatisfaction with pay and promotion. They cited several studies [e.g., Hulin 1968 and Knowles 1964] that confirmed the relationship of the first two dimensions and turnover (the third was hypothetical).

There is only weak support for a relationship between turnover and organization size. Porter and Steers found only one study that related organizational size to turnover. This study found organization size to be directly related to rate of turnover. However, the research methodology did not allow

other explanatory factors to be ruled out. Porter and Steers concluded that, while organization size has intriguing possibilities as a factor in turnover, it has no substantiated value in predicting turnover [Porter and Steers:156].

B. IMMEDIATE WORK ENVIRONMENT FACTORS.

Predictably, the work setting is instrumental in the withdrawal decision.

"Factors to be considered (in the immediate work environment) include (a) supervisory style, (b) work unit size, and (c) the nature of peer group interaction [Porter and Steers:157]."

The significance of supervisory style was first noted in the Michigan and Ohio State leadership studies of the early 1950's [Porter and Steers:157]. The studies reviewed by Porter and Steers consistently found that low supervisory consideration, regardless of the degree of task orientation, resulted in higher turnover. Interestingly, the researchers also found that increasing consideration decreased turnover only to a certain point. Beyond this critical point, there was little relation between the two.

In addition to level of supervisory consideration, Porter and Steers also cited studies [e.g. Fleishman and Harris 1962 and Skinner 1969] that related increased turnover to employee dissatisfaction with supervisory relations, inequitable treatment received from supervisors, receipt of insufficient recognition or feedback from supervisors, conflicting job goals, and lack of managerial experience among supervisors. These studies have pointed to the importance of supervisory style as a major factor in turnover. Apparently, when one's expectations concerning what the nature of supervision should be like remain substantially unmet, propensity to leave increases.

The relation of work unit size to turnover was investigated in four studies [reviewed by Porter and Lawler 1965] which generally found that increased work unit size resulted in increased turnover. These studies considered only blue-collar workers. Porter and Steers theorized that larger work units lead to "lower group cohesiveness, higher task specialization, and poorer communications, which result in decreased need satisfaction and higher turnover [Porter and Steers: 159]."

The last factor in the immediate work environment is peer group interaction. In the view of Porter and Steers:

"Such interaction can provide support and reinforcement necessary for adjustment and attachment to the work environment. Conversely, failure to secure such support may result in alienation from the workplace [Porter and Steers:159]."

The research reviewed generally supported this hypothesis in that turnover increased as satisfactory peer group interaction decreased. There were exceptions, however. Apparently, differences in the groups studied or the organizational setting mediated the effect of this factor [Porter and Steers:161].

C. JOB CONTENT FACTORS

Porter and Steers viewed the duties and activities required for successful performance of a particular job as either "a vehicle for personal fulfillment and satisfaction or a continual source of frustration, internal conflict, and dissatisfaction [Porter and Steers: 161]." They discussed four specific factors in this area: "(a) the overall reaction to job content, (b) task repetitiveness, (c) job autonomy, and (d) role clarity [Porter and Steers:161]." Overall reaction to job content is the general level of satisfaction with the assigned tasks. As might be

expected, the relationship between this factor and turnover is straight-forward: greater satisfaction results in lower turnover [Porter and Steers:161-162].

A much more specific factor in job content is task repetitiveness. To achieve increased efficiency, jobs have tended to become fragmented and routine. Although not unanimous, the research generally supports the contention that increasing task repetitiveness increases turnover [Porter and Steers:162].

Job autonomy is another specific factor in job content. This factor involves higher order needs such as self-fulfillment. Where the individual's autonomy over his job is greater and his propensity for withdrawal decreases, Porter and Steers cited seven studies to support this relationship [Porter and Steers:163].

Role clarity, the final factor in job content, results from close congruence of the individual's expectations and the actual requirements of the job. Congruence of the individual's expectations and the actual job requirements are greatly influenced by the managerial policies on communications. When an accurate picture of the tasks required by the organization are presented to the employee prior to employment, those potential employees who feel that the rewards justify the tasks will join the organization. Once an individual becomes a member of the organization, accurate communication of what is expected of him or her (task clarification) can result in adjusted employee expectations, thereby reducing conflict between organizational and individual expectations and lessening role ambiguity. If role clarifying communications are not present, congruence between organizational and individual expectations will be lacking [Porter and Steers:163-164]. Lack of congruence leads to ambiguity and depending on the individual's tolerance for ambiguity, increases his tendency to withdraw. Porter

and Steers concluded that this relationship is confirmed by the available research [Porter and Steers:163-164].

D. PERSONAL FACTORS

Factors unique to the individual also appear to have a significant impact on turnover - such factors include (a) age, (b) tenure with the organization, (c) similarity of job with vocational interest, (d) personality characteristics, and (e) family considerations [Porter and Steers:164].

Age and tenure with the organization have been subject to more study than have the other personal factors. The research clearly indicates a strong inverse relation with turnover for both factors [Porter and Steers:164-166]. Conversely, the similarity of job with vocational interest, as measured by standard interest inventories, has been studied relatively little. The available research indicates that close congruence between job and interests decreases the propensity for withdrawal [Porter and Steers:166]. Research dealing with the fourth personal factor, personality characteristics, indicates that individuals scoring at the extremes of personality traits, are more prone to leave the organization [Porter and Steers:164-167]. For example, individuals with an extremely high or extremely low achievement need are more prone to leave the organization than individuals with moderate achievement need.

The last personal factor, family considerations, involves two related variables - family size and family responsibilities. Family size appears to have opposite effects on turnover of men and women. Increased family size tends to increase turnover of female workers while decreasing turnover of males. This difference is a reflection of the traditional male-female roles in our society. The effect of

family responsibilities was to increase female turnover but available research shows mixed findings for males [Porter and Steers:166-167].

Many of the factors Porter and Steers identify as predictors of turnover affect the individual's perception of the job and its rewards. According to Mobley (1977), individuals who experience dissatisfaction, which may be a function of Porter and Steer's "unmet-expectations," will compare these job factors to those available in other jobs. When other jobs appear to be more desirable, turnover is likely if openings exist. Initial conditions leading to dissatisfaction are most likely to effect turnover when the job market is favorable.

The previous discussion describes the major factors research identifies as predictors of retention. By synthesizing these factors, a general model can be assembled that describes what may be the most significant aspects of the retention-producing process in organizations.

The general model comprises the following factors:

Pay - the individual's perception of how well basic human needs such as food, shelter, and clothing can be satisfied; ultimately the ability to maintain an acceptable standard of living.

Promotion - represents the individual's perception of the fairness of the promotion system in terms of selecting the best qualified people for promotion and his or her own probability of advancement.

Organizational size - the numbers of employees employed by an organization.

Supervisory style - the perceived amount of consideration and the degree of structuring behavior the supervisor demonstrates.

Work unit size - the number of employees involved in the immediate work environment.

Peer group interaction - the degree to which members of the individual's work group encourage participation, teamwork, and exchange of information as perceived by the individual.

Overall reaction to job content - the general level of satisfaction with the assigned tasks.

Task repetitiveness - how routine or fragmented the job as perceived by the individual.

Job autonomy and responsibility - the individual's perception of the amount of freedom given him or her to do a good job.

Role clarity - the individual's perception of the amount and frequency of clarifying information received.

Age - the chronological age of the employee.

Tenure with organization - the length of time an employee has been with the organization.

Similarity of job with vocational interest - the degree present employment matches with the employee's life-time job interests.

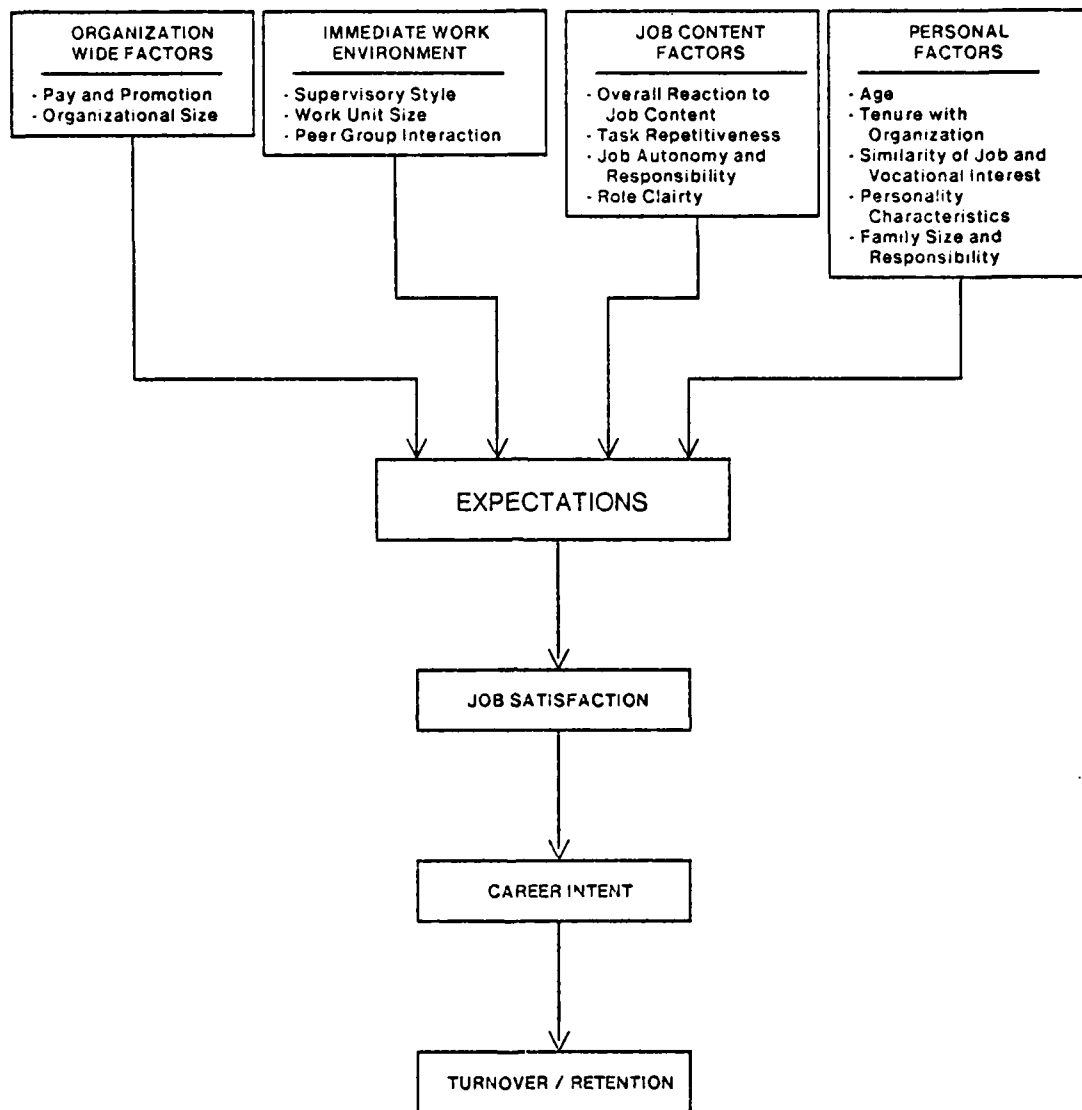
Personality characteristics - the degree of achievement need, aggressiveness, independence, self-confidence, emotional stability, maturity, and job identification possessed by the individual.

Family responsibility - the fulfillment of the perceived needs of the individual's family members and their satisfaction with his or her place of employment.

Job satisfaction - an employee's affective orientation toward the job.

Expectation - the anticipation of, or the adjustment to, a specific outcome.

These dimensions are the major classes of variables operating in the retention process. They will serve as a spring-board for the specific model of Naval Aviator retention presented in Chapter IV.



General Model of Turnover

Figure 1

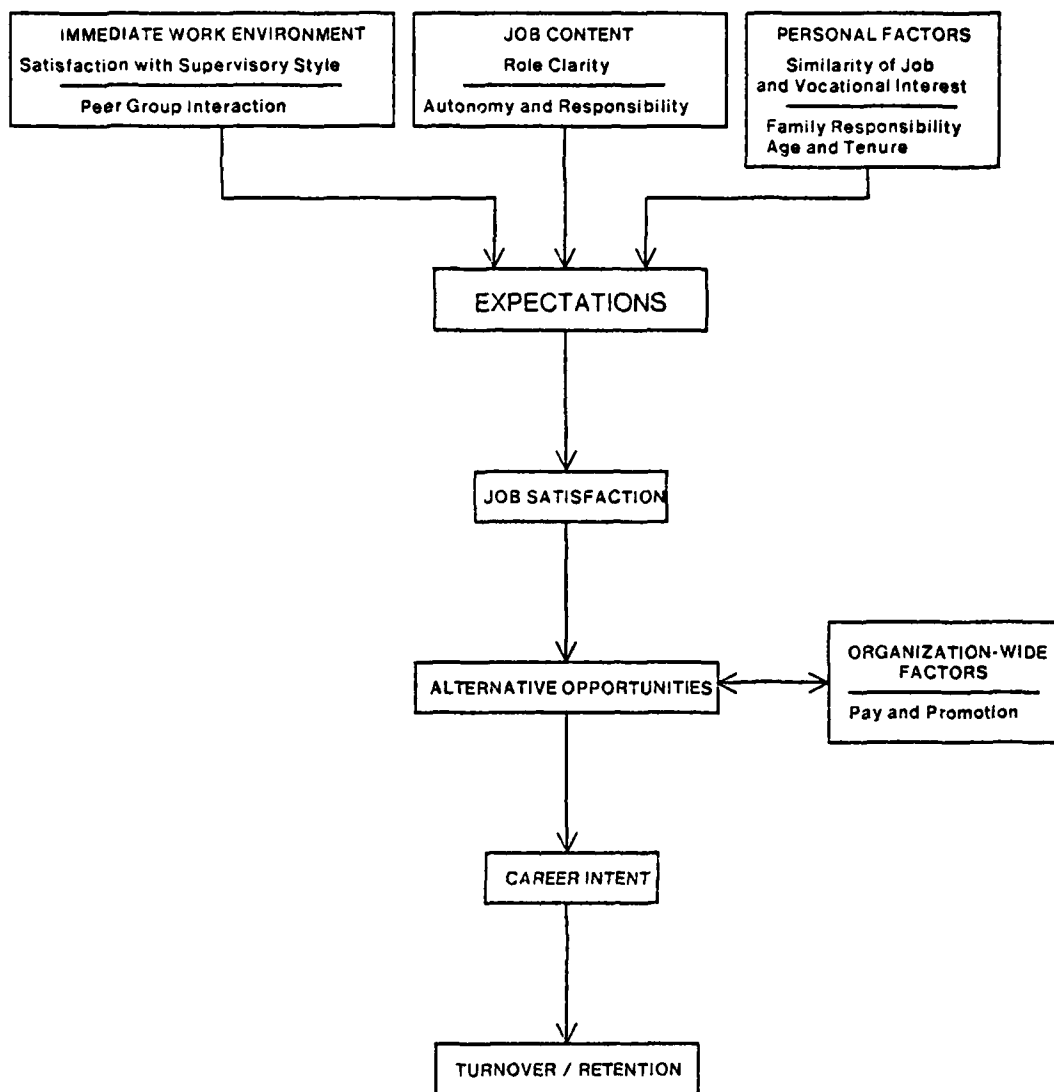
IV. SPECIFIC MODEL

In the previous section, I described a general model of retention in organizations. In this section, the aim is to depict a specific model (derived from the general retention model), that applies to the Naval Aviator. This model is based on my synthesis of the literature and my experience as a Naval Aviator.

The main categories relating to the general model are the same in this model but the individual variables are amplified or otherwise altered to target this specific population. The following describes the specific model characterizing aviator retention (Figure 2):

The organization-wide factors of pay and promotion are shown in this model separately from the other variables. It is general knowledge that pay and benefits for a serviceperson are set by Congress and the levels of these are widely known. It is further the assumption of this author that no Naval Aviator is a member of this community strictly because he feels the pay is superior to that available from other forms of employment. The promotion system used within the Navy, as subjective as it may be, is also well known to its members before they are eligible to leave active service. For these reasons, pay and promotion are expected to impact on retention not through their effects on expectations but directly through comparison made with available alternative opportunities.

All three of Porter and Steer's variables concerning the immediate work environment are considered important for inclusion. The variables; supervisory



The Naval Aviator Model

Figure 2

style, work unit size, and peer group interaction, serve to measure the individual's satisfaction in his dealings within the squadron.

In the job content factors category, overall reaction to job content and task repetitiveness are not included with aviators. As defined in the previous section and in view of the voluntary nature of aviation, overall reaction to job content is better represented in personal factors and in general job satisfaction. Task repetitiveness is omitted because it is, in the opinion of this author, after 10 years of membership in this community, that flying is an extremely dynamic business and it is anything but routine. Job autonomy and responsibility coupled with role clarity are important to include in the model because these factors are considered necessary for the normal maturation of a young officer. Job autonomy in the form of freedom to make decisions on the job is somewhat lacking in many military units. Clarity of role is required before an officer can successfully assume the additional responsibilities job autonomy brings.

Age and tenure are included in the specific model because the overwhelming majority of resignees come from one particular age group (figure 3, section B). Thus there is a relationship between Naval Aviator retention and age and tenure. Personality characteristics are not included however, in this model because differences are not believed to be extreme, given the exacting entry requirements and follow-on training experienced by aviators.

The Similarity of Job and Vocational Interest factor is needed in the model to reflect conditions where personnel feel they are in a job that doesn't fit their interests or fully utilize their skills. For example, an individual that is assigned as the squadron Legal Officer while he holds a degree in structural engineering and

strongly desires to be assigned in an aircraft maintenance capacity. Or the more classic situation of an aviator being assigned to what he perceives as a meaningless tour in an unrelated staff function.

The family size and responsibility factor is included in the model to account for a very important influence on retention. By and large, the Navy recruits a single person and retains a married one. Dissatisfaction of family members with Navy life tends to spill over into the job and work setting. This can even be a carry-over from the past in that individuals whose parents or guardians had negative feelings about the Navy are less likely to remain in Navy life. Spouses' feelings about the Navy are important because research results show that personnel who were retained reported a year earlier that their spouses' feelings about the Navy would influence their career decisions [Grace, Holter, and Soderquist 1976].

The deminsion of expectations is included here as in the general model. Without expectations as an intervening variable, the model would seem to indicate that a given set of values on the determinants would produce the same effect in all individuals. That is not the case, however. For example, dissatisfying pay to one individual may not cause dissatisfaction in another individual. The difference in the effect of the pay will be a consequence of the involved individual's expectations concerning pay and his or her financial needs (e.g., family responsibilities).

Job satisfaction is used exactly as was depicted in the general model. Its function in the Aviators Model is to serve as a summary factor reflecting the degree of positive affective orientation toward membership in Naval Aviation.

The general model does not consider factors external to the organization that logically could affect turnover. The obviously crucial set of external factors include general economic condition and alternative forms of employment. In the aviator-specific-model, the intervening variable, alternative opportunities, is used to include these all important factors. Alternative opportunities specifically represents alternative job opportunities within the environment and is defined as the individual's perception of the availability of alternative positions in private industry with pay, benefits, duties, and responsibilities comparable with their present Navy job. "The state of the 'outside' job market always has borne directly on the services' ability to recruit and retain needed people [Callander 1978]." In today's society of mass-media, with news and current events coverage, the populace is many times more informed than ever before. During times of economic expansion and up-turns in the business activity cycle, military personnel can compare their status to that of others and may feel relatively deprived. Naval Aviators are probably well informed on the disparities in life styles between commercial pilots and those employed by the military. It is estimated that commercial aviation will need 1,900 pilots per year through the 1980's and that 75% of them will come from the military [Craver 1979] providing the service member with a viable alternative opportunity.

Career intent in the Aviators Model displays a decision point for the individual following his or her integration of the previous variables.

Finally, the resultant outcome, 'turnover' serves as a yes, they leave, or no, they are retained.

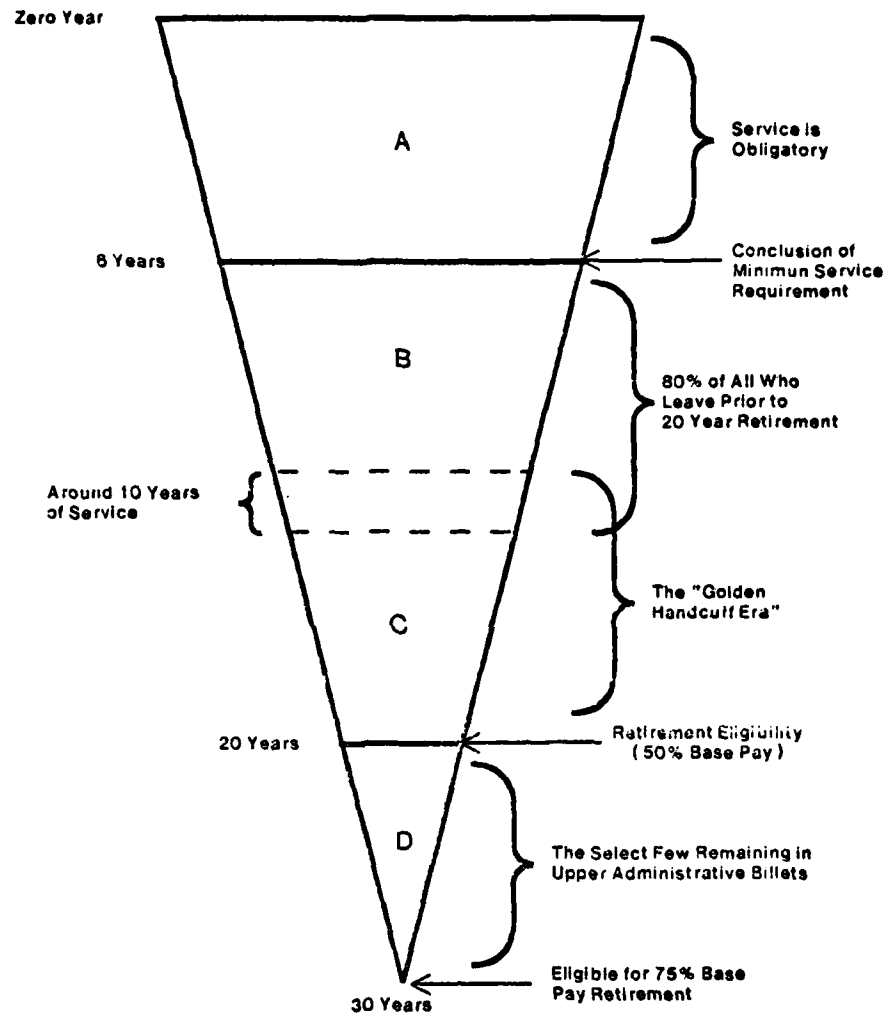
To elaborate upon the specific model, information regarding the way an

aviator progresses through a career could prove helpful. In Figure 3, aviator career progress is portrayed by an inverted pyramid divided horizontally into four sections. The sections represent the different stages a career Naval Aviator would follow. Section (A), the largest section, represents the beginning era where an initial length of service in Naval Aviation is obligatory. Section (B) portrays the aviator immediately after his minimum service requirement. This section is viewed as the critical area where 80 percent of those aviators who will eventually withdraw choose to leave the Navy. The demarcating line separating section (B) and section (C) represents any point-in-time where an individual feels he or she has too much invested to think casually of leaving the organization. Section (C) referred to by this author as the "Golden Handcuff Era", is where the twenty year retirement seems almost within reach. Retention in this section is quite predictably better than section (B). The Navy's retention problem lies mainly with personnel in section (B), but conceptually this Model would apply to all persons whose length of service place them in sections A, B or C. This area (A + B + C) of the triangle ends with the twenty years of service mark. The final, small remaining section, section (D), is reserved for the select few (almost always Commanders and above) who remain in the Navy to the ultimate, thirty year point. It is at the thirty year point when an officer is eligible for 75 percent of his or her base pay in retirement.

In the beginning, entrants to the aviation community come with relatively few negative expectations. Flying is a voluntary assignment and as such it receives only people desirous of doing/trying just that. I would venture to say that very few of all that enter Naval Aviation seriously think they will stay for a career. Certain factors that they come in contact with tend to create or reinforce the

degree of commitment to stay or leave. It is these factors I hope to capture in my model of Naval Aviator retention.

Naval Aviator Flow Diagram



Note: ---
 Indicates Individual Perception
 of Onset of Next Era

Figure 3

V. DISCUSSION / RECOMMENDATIONS

This thesis was directed toward the development of a model of retention for Naval Aviators, which is largely based on factors affecting job satisfaction which in turn shape retention. The overwhelming amount of material found on job satisfaction is of importance to the Navy because satisfaction may motivate member behavior. A review of the literature showed that job content, immediate work environment, and personal factors have been found to influence job satisfaction. It suggests that job satisfaction can be used to the Navy's advantage in improving its pilot retention rate. Retention of aviators in the Navy results from satisfaction with occupation, work and life style. The following discussion highlights aspects of the specific model that form the basis for recommendations for improving Naval Aviator retention.

It is this investigator's opinion that the retention situation has deteriorated so badly that in order to reverse the present trend, increased emphasis on parity with alternative opportunities must be addressed. Understandably the government cannot afford to pay military pilots the going wage in the private sector. However it should be able to improve the benefit package in the areas it has leverage. For example:

- A tax incentive plan could be given military personnel on active duty effecting all government pay and allowances. To target the proper segment, a sliding scale could be used from tax-free income at the E-1 level to normal taxation at the O-10 level. A tax-relief plan, such as this, would be relatively easy to implement and would be perceived as an immediate benefit to the individual

in the form of purchasing power.

- Restoration of the G.I. bill, more generous than before, with a clause enabling the children of military personnel to inherit this benefit in the event it's not completely utilized would also be desirable.

- To arrest the eroding medical and dental benefits to dependents, it is recommended that doctors be drafted into service or be awarded healthy bonuses to acquire their talents.

- Military retail stores have been forced to sell items at fixed percentages; it is recommended these stores be allowed to sell to military members at the government's cost.

- For equality with the civilian sector, it is proposed to offer realistic cost of living allowances, sensitive to environmental price changes, for individuals ordered to high cost of living areas.

- Finally, it is proposed, to provide more favorable V.A. mortgage rates to active duty members.

These six proposals are examples of actions that could be taken to satisfy the Herzberg "hygiene factors" or Maslow's "lower order needs", that according to prior research should be satisfied first.

The Navy's attempts to address retention through programs such as human resources management may have at best only modest effects since more basic needs are not yet met. Only after attempts to satisfy basic needs can higher order areas be addressed. The military will probably never put-to-bed the hiring needs of commercial aviation and its resultant drain on the armed forces resources. But

our goal, as seen by this author, should be to continue to improve work factors and general satisfaction with Naval Aviation as an occupation.

APPENDIX A

M.S.R.: The point in time at which obligated service ends (i.e., initial service requirement from commissioning or additional service requirements from aviation training). Also called Minimum Service Requirement (Initial Date) -- MSR or MSRI. This date provides the initial point in time at which Naval Officers make a career decision to stay in the Navy or leave. From this point on, officers on continuous active duty are counted as career officers.

Retention rate is defined as the ratio of officers in a given category on active duty at MSR plus two years ($MSR + 2$) to the same category of Officers in the beginning inventory adjusted for involuntary losses.

If we denote by N_k the number of officers on active duty at MSR plus k years (N_0 being the beginning number at year zero), by R_k the retention rate to MSR plus k years, and by L_k the involuntary loss up to MSR plus k years, then the retention rate to $MSR + k$ years may be expressed as:

$$R_k = \frac{N_k}{N_0 - L_k}$$

Retention is calculated at $MSR + 2$ since research has shown that approximately 80% of the officers who are going to leave the Navy have done so within two years of the expiration of their initial service obligation. This provides a operationalization indication of a general measure of career motivation.

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